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Meeting the Needs of Deaf and hard of hearing Employees

A Resource Packet for Employers

DO YOU KNOW:

How to work effectively with hard of hearing, late deafened and Deaf employees?

What are reasonable accommodations for a Deaf or hard of hearing employee?

What are the costs of accommodations?

prepared by the MCDHH

Massachusetts Commission
for the Deaf and Hard of Hearing

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Contact MCDHH for Trainings, Technical Assistance, Information, CART and Interpreter Referral, and Case Management Services

Working Effectively with Persons who are Deaf or Hard of Hearing

Program on Employment and Disability
New York State School of Industrial and Labor Relations
CORNELL UNIVERSITY

Who is Considered Deaf or Hard of Hearing?

Hearing loss affects between 21 and 28 million Americans (about 10% of the U.S. population). The loss may range from mild (difficulty with or inability to hear soft sounds) to profound (difficulty with or inability to hear loud sounds). Generally speaking, this group can be divided into persons who are either hard of hearing or deaf.

Persons who are hard of hearing represent roughly 20 to 22 million people. The term "hard of hearing" refers to a hearing loss from 25dB (mild loss) to 90dB (severe loss). An individual with this degree of loss frequently communicates using a combination of strategies that rely on residual auditory ability enhanced by a hearing aid or assistive listening device and often supplemented through lipreading or other visual means.

Deafness is a low prevalence condition, affecting approximately one and a half-million persons. The term "deaf" refers to a hearing loss greater than 90dB (profound hearing loss). Persons are considered "deaf" if their hearing loss is such that they are unable to hear or understand speech and must rely on vision for communication. Persons who are deaf in the United States, especially those who are born deaf or lose their hearing at an early age, generally prefer to communicate using American Sign Language through sign language interpreters, or through reading, writing, or other visual means. Persons who are deaf and lose their hearing later in life, sometimes referred to as "late deafened", may have different communication preferences and rely on residual hearing, lipreading, captioning, or perhaps English based sign language.

What is the Impact of Hearing Loss at Work?

Research on the employment of workers who are deaf or hard of hearing indicates that on-the-job communication can be affected by the following factors.

- Lack of notetakers/assistive listening devices for meetings.
- No sign classes for hearing workers.
- No professional interpreters are made available as needed for job interviews, performance reviews, group meetings, and other situations.
- Co-workers have difficulty communicating with them.
- Supervisors have difficulty communicating with them.
- Poor (non-professional) interpreters are used.
- Written notes and company memos are often expressed in a level of English inappropriate to the reading abilities of particular deaf and hearing workers.

Consequently, employers often need to be prepared to make accommodations for employers who are deaf or hard of hearing in activities requiring communication. Examples of these activities include following detailed instruction, teamwork, adapting to change, or interacting with co-workers and supervisors.

What Types of Jobs Do Persons Who are Deaf or Hard of Hearing Have?

Persons who are deaf or hard of hearing can perform the majority of jobs available. However, there are factors that create communication barriers that can limit their participation in the workplace. These factors include physical and environmental barriers such as noise, light level within a room, and distance from a speaker. Attitudinal barriers are also factors that can limit participation of persons who are deaf or hard of hearing. They include stereotyping, ignorance, and focus on disability (limitations) rather than ability (strengths).

With few exceptions, persons who are deaf or hard of hearing, if given appropriate training and accommodations, have the same range of job options as any other person. There are indeed no jobs that are just for persons who are deaf or hard of hearing; they are employed in as diverse range of jobs as people who hear. In recent years, several persons who are deaf or hard of hearing have been successful in high profile jobs that require excellent communication skills, e.g., screen actors

and President of the United States. Given their capabilities and provision of appropriate accommodations, persons with hearing losses can be productive employees in most any job. Persons who are deaf or hard of hearing have been successful as...

architects	mechanics
artists	merchants
computer programmers	physicians
corporate managers	postal workers
entrepreneurs	psychologists
financial consultants	lawyers
telecommunications technicians	salespersons
	teachers
	judges

Success on the job depends to a large degree upon the skill and attitudes of the worker as well as the willingness and ability of the employer to identify and resolve communication barriers encountered in the workplace. Appropriate accommodations may be implemented in all phases of employment, from participation in the selection process to training and advancement once an employer learns an applicant or employee is deaf or hard of hearing and in need of an accommodation, the employer may be required by the Americans with Disabilities Act to provide the needed accommodation.

Accommodating the Person Who is Deaf or Hard of Hearing During the Employee Selection Process

During the selection process, employers must determine if the deaf or hard of hearing applicant is capable of performing the essential functions of the job. It is critical to obtain an accurate picture of the applicant and his or her background, skills, and abilities to do the job. Typically this process involves two steps: screening written job applications and interviewing prospective applicants.

Some applicants who are deaf or hard of hearing may have difficulty in reading and comprehending written applications, especially those that are heavily loaded with complicated English phrases or unfamiliar terms. Appropriate accommodations may include such strategies as allowing the person to take an application and obtain their own assistance in filling it out, allowing more time for completion, or providing a sign language interpreter. When an applicant notifies you about their hearing loss, the simplest strategy is to ask the applicant what appropriate accommodations are needed.

Accommodations may also be required during selection interviews. Minimally, interviews should be sensitive to the range of communication abilities of persons who are deaf or hard of hearing. Simple accommodations may include conducting the interview in a quiet, well-lit environment that minimizes visual distractions. The interviewer must be willing to use the interviewee's assistive listening device, if one is used. Talk at a normal pace and at a normal volume. If asked, be willing to repeat questions, converse at a different pace or volume, or try other strategies like note writing. Avoid sitting in front of bright lights or windows which make it difficult to speech read.

If requested, use an effective professional sign language interpreter. When using the interpreter, speak directly to the applicant, not the interpreter. The role of the interpreter is to facilitate communication, not explain or participate in the interview. All information shared in the interview is confidential and will not be disclosed by the interpreter to other parties. Referrals for professional sign language interpreters may be obtained from public or private agencies such as the local vocational rehabilitation office, the state commission for the deaf, or by consulting the telephone directory.

If group interviews are conducted, it is important to speak with one person at a time. Be sure the deaf or hard of hearing applicant knows that the interviewer is speaking before the interviewer or other persons in the room speak . Remember, your goal is to obtain an accurate picture of the person's skills, experience, and capabilities to do the job--not to miss this information due to communication difficulties.

Enhancing Productivity on the Job

Research has also documented that employers frequently rate deaf and hard of hearing workers as better or about the same as hearing co-workers in task performance (e.g., quality/quantity of output, attendance, safety, working without supervision). Workers give themselves similar ratings. However, both groups prioritized the following factors as critical to job retention and advancement:

- Access to periodic training to upgrade skills
- Access to staff and small group meetings
- Reassignment of job duties
- Use of interpreters
- Availability of Text Telephones (TTs) and assistive listening devices (ALDs)
- Rearranging rooms for good visual communication.

On the Job Accommodation to Enhance Communication

Enhancing the performance of the employee who is deaf or hard of hearing does not necessarily have to be expensive or require a great deal of equipment. In many instances, communication accommodations may be useful to all employees, not just those who are deaf or hard of hearing. The most important consideration is to identify the communication situations in which the deaf or hard of hearing employee is experiencing difficulty. The responsibility to improve or minimize communication barriers in these situations is equally shared by all persons in the workplace, those who are hearing, hard of hearing, or deaf. The following are examples of accommodations that could facilitate communication in a variety of situations:

Face to Face Situations

- ensure that the office and/or work environment is adequately lighted
- consider placing the worker in a quieter environment if environmental noise interferes with communication
- arrange the work station in a way that the worker can readily see when someone is entering their office or work-site

- use assistive listening devices when needed
- use interpreters (oral and/or sign) when needed
- be aware of your personal habits that may serve as barriers to comfortable speechreading. Examples include hands in front of mouth, not directly facing employee, and chewing while talking
- encourage co-workers and supervisors to learn sign language by offering training classes

Interactive Distance Communication Situations

- ensure the availability of Text Telephones (TTs, also commonly referred to as TDDs or TTYs), amplification devices, or other appropriate assistive listening devices (ALDs) to help facilitate communication between other employees or customers
- use state telecommunication relay services, where an intermediate person receives verbal information and types it to the person using a TT. The "800" toll free phone numbers for these services are listed in local phone directories
- consider E-mail for intra and interoffice communication
- provide visual or tactile pagers for communication, instructions, and as an alerting system
- share information via networked computers
- use computer notetaking
- try FAX machines for intra or interoffice, or customer communication
- provide visual and auditory alerting devices on telephones and fire alarm systems

Group Situations

- ensure that all rooms used for meetings or training are adequately lighted
- utilize assistive listening devices such as FM, infared, loop systems, and/or closed-captioning decoders in meeting and training sessions
- try real-time captioning for meetings and training sessions (simultaneously captioning as speaker speaks)
- caption video training materials
- use professional interpreters (oral and/or sign) when needed
- use notetakers in meetings and groups
- consider "communication cops" at meetings (one person who monitors the meeting to ensure that only one person speaks at a time)
- provide mentors and coaches

Performance Evaluations

Performance evaluations are typically based upon a written review coupled with a face-to-face interview. If reading ability necessitates extra time, provide workers with written information in advance. Since barrier-free communication is critical, use multiple strategies as necessary to ensure success. Multiple strategies include use of professional interpreters (sign or oral), computers, ALDs, and other appropriate strategies.

Resources

Prior to contacting any of the following resources, it is important to remember that the person with the most information and experience regarding needed workplace accommodations is the job applicant or worker. Ask the individual to tell you what accommodation(s) work best for that person in face-to-face, interactive distance, and group communication situations. If additional information or assistance is needed, consult the following resources.

University Resources

University of Arkansas RRTC for Persons who are Deaf or Hard of Hearing, 4601 West Markham, Little Rock, AR 72205, 501/686-9691 V/TT

Northern Illinois University RRTC for Persons who are Traditionally Underserved, Department of Communicative Disorders, DeKalb, IL 60115, 815/753-6520 V/TT

Job Accommodations Network, West Virginia University, 809 Allen Hall, P.O. Box 6123, Morgantown, WV 26505-6123, 800/526-7234 V/TT

Gallaudet University, National Information Center of Deafness, 800 Florida Avenue, NE, Washington, DC 20002, 202/651-5051 V/TT

National Technical Institute for the Deaf, National Center on Employment of the Deaf, 1 Lomb Memorial Drive, Rochester, NY 14623, 716/475-6205 V/TT

Consumer Organizations

National Association of the Deaf, 814 Thayer Avenue, Silver Spring, MD 20910, 301/587-1789 TT, 301/587-1788 V

Self Help for Hard of Hearing People, Inc., ~~7800 Wisconsin Avenue~~ 7910 Woodmont Ave. Suite 1200, Bethesda, MD 20814, 301/657-2249 TT, 301/657-2248 V

Association for Late-Deafened Adults, P.O. Box 641763, Chicago, IL 60664, 312/604-4192 TT

Professional Organizations

American Deafness and Rehabilitation Association, P.O. Box 21554, Little Rock, AR 72225, 501/663-7074 V/TT

American Speech-Language-Hearing Association, 10801 Rockville Pike, Rockville, MD 20852, 800/638-8255 V/TT

Registry of Interpreters for the Deaf, Inc., 8719 Colesville Road, Suite 310, Silver Spring, MD 20910, 301/608-0050 V/TT

Regional/State Resources

ADA Regional Disability Business Technical Assistance Center Hotline, 800/949-4232 V/TT

State Vocational and Independent Living Rehabilitation and/or State Office or Commission for the Deaf, listed in local phone books and directory assistance

This publication was developed by the University of Arkansas Research and Training Center for Persons who are Deaf of Hard of Hearing. The Center's mission is to develop a coordinated, advanced program of rehabilitation research and training to professional service providers to enhance the rehabilitation outcomes of persons who are deaf or hard of hearing. This center is funded by the National Institute of Disability Rehabilitation Research.

For more information write to: University of Arkansas Research and Training Center for Persons who are Deaf or Hard of Hearing, 4601 West Markham Street, Little Rock, AR 72205, 501/686-9691

For further information contact:

NEW ENGLAND DISABILITY AND BUSINESS TECHNICAL ASSISTANCE CENTER
145 Newbury Street
Portland, Maine 04101

Voice/TDD: (800) 949-4232

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In addition to serving as a National Materials Development Project on the Employment Provisions of the Americans with Disabilities Act of 1990, the *Program on Employment and Disability* also serves as the training division of the Northeast Disability and Business Technical Assistance Center. This publication is one of a series edited by Susanne M. Bruyère, Ph.D., C.R.C., Director of the ILR Program on Employment and Disability at Cornell University.

OTHER TITLES IN THIS *IMPLEMENTING THE ADA* SERIES ARE:

- Working Effectively with Persons who have Cognitive Disabilities
- Employment Considerations for People who have Diabetes
- Working Effectively with People who are Blind or Visually Impaired
- Working Effectively with Employees who have Sustained a Brain Injury
- Workplace Accommodations for Persons with Musculoskeletal Disorders
- Employing and Accommodating Workers with Psychiatric Disabilities
- Working Effectively with Individuals who are HIV-Positive
- Working Effectively with People with Learning Disabilities
- Accommodating the Allergic Employee in the Workplace
- Employing and Accommodating Individuals with Histories of Alcohol and Drug Abuse
- Causes of Poor Indoor Air Quality and What You Can Do About It
- The Americans with Disabilities Act of 1990 and Injured Workers

For further information about publications such as these, contact the ILR Program on Employment and Disability, Cornell University, 102 ILR Extension, Ithaca, New York 14853-3901; or at 607/255-2906 (Voice), 607/255-2891 (TTY), or 607/255-2763 (Fax).

Massachusetts Commission for the Deaf and Hard of Hearing

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INFORMATION SERIES

210 South Street
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Description of the Massachusetts Commission for the Deaf and Hard of Hearing (MCDHH)

What is the MCDHH?

- The Massachusetts Commission for the Deaf and Hard of Hearing (MCDHH) is a commission, under the Executive Office of Human Services, which serves as the principal agency in the state on behalf of deaf, late deafened, and hard of hearing people.

- The Commission is also the lead agency for the federal, cross-disability, cross-agency grant from the U.S. Department of Education through the National Institute on Disability and Rehabilitation Research, which funds the Massachusetts Assistive Technology Partnership (MATP), to develop a coordinated, statewide system to enable access to assistive technology and assistive technology related services by people with disabilities in Massachusetts.

What are the primary mandates for the MCDHH?

- The Commission was established to advocate for, provide and coordinate public policies, regulations and programs to provide full and equal opportunity for deaf, late deafened and hard of hearing people in Massachusetts.

- The MCDHH is mandated to improve communication accessibility and quality of existing services, to deliver certain specialized services, to promote or deliver necessary new services, and to assist other state agencies in delivery of services to deaf, late deafened and hard of hearing people.

- The Commission is mandated to increase public awareness, determine the extent and availability of services, determine the need for further services, and make recommendations to the Governor.

What services and programs does the MCDHH offer?

- **The Department of Interpreter Services** maintains and coordinates a statewide interpreter referral service for deaf, late deafened and hard of hearing persons, and also referrals for Computer Aided Realtime Translation (CART) Services; screens and approves potential interpreters; provides information regarding interpreter services, evaluations and certifications; supports training of interpreters; and assists in determining communication competence in American Sign Language.

- **The Fund for Purchase of Interpreter Services** and **Fund for Purchase of CART Services** pay for the services of interpreters and CART Reporters to enable communication access for deaf, late deafened and hard of hearing people for many types of events in which other agencies are not legally responsible to pay.

- **The Department of Communication Access, Training and Technology Services** provides public education; communication accessibility training for agencies; information materials; a newsletter; speakers; and general information related to deaf, late deafened and hard of hearing people, their needs and services.

- **The Department for Case Management and Social Services** provides referral services; cross-agency case coordination; technical assistance to state and community agencies around cases and in policy and procedures development; assistance to deaf, late deafened and hard of hearing individuals with complex life situations; and Chapter 688 Transitional Case Management services in special situations; bilingual case management services; and training to hard of hearing individuals regarding factors related to hearing loss.

- **Program Development and Special Services:** MCDHH conducts needs assessments, establishes work groups, develops and pursues action plans to enhance already existing specialized services for deaf, late deafened and hard of hearing people and to promote development of needed special services.

- **Contracted Services:**

  Independent Living Programs and Services for Deaf and Severely Hard of Hearing People provide a broad range of services including skill training, self-advocacy training, peer mentoring, alternative support and recreational services, topical workshops for consumer education and advocacy, located at:

  Ad-Lib Center for Independent Living, Inc., Pittsfield
  Cape Organization for the Rights of the Disabled, Hyannis
  Center for Living and Working, Worcester and Framingham
  D.E.A.F., Inc., Allston, Danvers, Middleboro and New Bedford
  Northeast Independent Living Program, Lawrence
  Stavros Center for Independent Living, Springfield

  The Massachusetts Assistive Technology Partnership (MATP) provides services under the federal cross-disability grant to enable people of all ages with disabilities to have increased access to assistive technology and related services through public education, increased professional training, increased information, referral opportunities, facilitation of appropriate programs, policy development, leveraging of funding, consumer participation, and statewide coordination through the following contracted agencies:

  Coordination, policy and information:
  MATP Center, Children's Hospital, Boston
  Peer Assistive Technology Programs:
  Cape Organization for the Rights of the Disabled, Hyannis
  Stavros, Inc., Springfield
  Protection and advocacy services:
  Disability Law Center, Inc., Boston

Where are the MCDHH offices?

- **Administrative Office and Eastern Massachusetts Regional Services:**
  210 South Street, Fifth Floor
  Boston, MA 02111
  (617) 695-7500 Voice
  (617) 695-7600 TTY
  (617) 695-7599 FAX

- **Central Massachusetts Regional Office:**
  22 Front Street
  P.O. Box 8210
  Worcester, MA 01614
  (508) 755-4084 TTY/Voice
  (508) 752-5441 FAX

- **Southeastern Massachusetts Regional Office:**
  67 Industrial Park Road
  Plymouth, MA 02360
  (508) 746-8350 TTY
  (508) 746-8408 Voice
  (508) 746-8365 FAX

- **Western Massachusetts Regional Office:**
  Springfield State Office Building
  436 Dwight Street, Suite 204
  Springfield, MA 01103
  (413) 788-6427 TTY/Voice
  (413) 731-5177 FAX

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Department of Communication Access, Training and Technology Services (CATTS)

The CATTS Department provides:

- General information and referrals
- Communication accessibility and related presentations/workshops for agencies/organizations/businesses
- Information and materials about MCDHH services, Americans with Disabilities Act (ADA) and other related legislation, sign language and speechreading classes, communication access, assistive technology, newsletters and programs for hard of hearing, deaf and late deafened adults, interpreter programs, schools and summer camps.
- Technical assistance on ADA and assistive technology
- Resource Directory

CATTS Department Staff

Andrea Galvin, Director
Ruth Moore, Communication Access Training Specialist (Springfield)
Carole Rossick, Assistive Technology Specialist
Pam LaPan, Administrative Assistant (Springfield)
Brenda Schertz, Information Specialist

updated 8.20.97

A Deaf Person

- a deaf person who identifies with the Deaf culture
- may use ASL (American Sign Language), or gestures or mime
- uses facial expression - important to ASL grammatical structure
- may or may not use voice
- may prefer use of paper and pen
- varies in fluency of reading and writing English
- maximizes use of visually based non-English communication primarily or exclusively

An Oral Deaf Person

- born deaf, or acquired deafness at an early age
- tends to speak and to speechread
- speechreading skill varies
- may or may not use sign language
- varies in fluency of reading and writing English
- maximizes use of visually based English communication

A Late Deafened Person

- acquired a severe to profound hearing loss after their development of spoken language
- uses spoken English
- may use signed English, or ASL as a visual communication support
- speechreading skill varies
- may prefer visually based English communication

A Hard of Hearing Person

- acquired a hearing loss at anytime in their life
- hearing loss ranges from mild to profound
- benefits from auditory amplification (hearing aids)
- benefits from Assistive Listening Devices & Systems
- uses spoken English, may rarely use signed English
- may not know sign language
- speechreading skill varies
- maximizes use of residual hearing as primary mode, with the support of visually based English communication

What Employers Want to Know About Assistive Technology in the Workplace

by Marcia J. Scherer and Barbara G. McKee

A major aspect of communicating with employers is the individual's own attitude. The authors talk about the importance of being aware of one's needs and favoring collaborative employer-employee communication to negotiate accommodations in the workplace. SHHH members from Rochester, New York, add to this article by telling their personal experiences with employers.

The Americans with Disabilities Act (ADA) has enhanced opportunities for people with disabilities in the workplace by requiring the consideration of workplace accessibility and job accommodation.

"Accommodation" includes, for example, acquiring equipment or assistive technologies to enable individual employees to perform jobs for which they are qualified, providing support services such as interpreters, and making necessary adjustments in examinations or training materials.

Assistive technologies already play a key role in the worklife of many persons who are hard of hearing. Alerting devices, such as flashing or tactile fire alarms and telephone ringers, make the workplace both safer and more accessible. Access to information has been tremendously enhanced by media technologies such as closed caption decoders and personal amplification devices like FM systems and telephone amplifiers.

Environmental accommodations (availability of induction loop or infrared systems, visual displays of information in public places) and telecommunications technologies have also expanded the opportunities for hard of hearing persons to participate in activities that range from group meetings to coast-to-coast telephone conference calls.

Employers Want to Know...

In spite of the increasing availability of assistive technologies for persons with hearing loss, both employers and employees differ in their knowledge of available assistive technologies and the value they ascribe to the technologies. The following are examples of questions employers have regarding the provision of assistive devices and systems for employees:

- Will the use of the assistive technology/assistive listening devices result in a significant increase in the employee's productivity? Will this offset the costs of assistive technologies?

- How can we be sure that our limited funds for technologies will result in "the most bang for the buck." For example, will the technologies go to those people who will optimally use them?

- Are there workplace technologies in place or being planned that pose barriers for individuals with hearing loss and what can be done about them? Will a technology for one person establish a barrier for another? For example, would a system relying on auditory output for a low vision person that can't be accessed by a hard of hearing individual present a problem?

- What is "reasonable accommodation" and by whom and how is this determined?

- Where can we get technical assistance and more information regarding assistive technologies and ADA compliance? (A 1991 Harris Poll commissioned by the National Organization on Disability revealed that, after questions of cost, employers want to know most about this.)

The results from a research study on employer concerns regarding the hiring of persons with disabilities (Greenwood, Schriner, & Johnson, 1991) indicated that in the area of "communication disabilities" (which includes hearing loss), considerable

concern was centered around two areas: employee flexibility and safety.

While technologies are getting better in accommodating differences among individual users, there continue to be too few options for exercising choice in device design, performance, and service.

Regarding safety, technologies have made it possible for many individuals to be competitively employed in a safer environment, but they may also introduce problems. The incidence of *repetitive motion injuries* or *cumulative trauma disorder* has increased in persons who regularly use a keyboard. Visual strain has been linked to computer monitors and the digital display of information. Depression, anxiety, and other psychological states have also been associated with today's high-tech, fast-paced, workplace.

Many technologies, thus, have come to be viewed as presenting challenges as well as benefits.

Dilemmas and Double-Binds

Consider this example of an ideal employee from the 1980 study by Kaplan and Questad in the *Journal of Applied Rehabilitation Counseling*:

"A composite picture of an ideal [employee] can be drawn. The ideal [employee] would be a young, well-educated male with a slight physical disability who would be employed at the time... though not making too much money lest he be unmotivated. He would have a good self-concept, high self-esteem, independence, high motivation, specific [career goals], a stable work history and would never have received public assistance. He would have a high degree of acceptance of disability, a high I.Q. and little need for emotional security. In short, the ideal [employee] would probably not need much in the way of [job accommodations]."

The above was written 12 years ago, yet it is very current. People with disabilities are expected to exhibit independence and self-reliance, yet to be cooperative and accommodating; to openly disclose their difficulties and request assistance, yet be just like every other employee. These apparently contradictory characteristics expected of the employee with a disability can place the person in a no-win situation. Too much — or the wrong kind of — independence can be perceived as lack of cooperation.

Disclosing difficulties and requesting assistance can cause the person to be seen as demanding; an accommodating person may be seen as being passive and weak.

The Perspectives of Some SHHH Members Regarding the ADA and Assistive Technologies

Members of the Rochester, New York, SHHH Chapter were asked to participate in a group interview regarding their on-the-job experiences with assistive technologies. Members were also asked to offer recommendations for assistive technology use. The interview took place during the discussion period preceding the regularly scheduled March 1992 meeting.

A major point emphasized by this group of individuals was the importance of being aware of one's needs and then effectively communicating those needs. The value of becoming educated about available options and sources of assistance was also highlighted. Here are two examples from members that illustrate this major point:

— "I had to quit my job as a receptionist ten years ago because I couldn't hear people on the phone or those who came up to the window in the reception area, and it was just too frustrating. So I finally quit. But if I could do it over again, I'd educate myself. I didn't know about the devices that were out there 10 years ago. With the things that are available now, I could still be working."

— "You do have to be honest with yourself and find out what you can and cannot do. That is a problem though, because we don't know what we can and can't do until we know what's available and can try alternatives."

For the most part, individuals emphasized the importance of taking the initiative in communicating their needs to management. Here are some of their comments:

— "If I don't bring it up, they don't know what I need. So the responsibility is mine."

— "I recently heard that I'm going to have a new supervisor. And

A Special Invitation

You Are Cordially Invited to Participate
in a Tribute to
SHHH Founder and Executive Director
Howard E. "Rocky" Stone
in Honor of His Retirement and
Years of Service to SHHH
during
The 8th International SHHH Convention
June 10-14, 1993
Town & Country Hotel, San Diego, California

To R.S.V.P.: Look for more details and registration forms in the March/April SHHH Journal.

"...The real problem is lack of communication, plus the employee's misinterpretation of the term 'reasonable accommodation.' Now, I can understand that negotiation for a reasonable solution to the problem must precede reasonable accommodation."

I'm going to have to explain the things I can do and the things better left to another nurse. I think the only way it will happen is if I talk with the supervisor myself. Also, I have to train the new supervisor in how to explain confidential case details over the TT (text telephone)."

— "I am now retired, but, today, I would start with *me*. I would be the one who would have to look at the situation, talk with my supervisor, and co-workers, and let them know what I can and can't do. The simple fact is, that I had permitted myself to get into situations that I never should have been in, because I felt I couldn't say, 'I can't do that.' But that's exactly what I *should* have said. I should have said, 'I can't attend five large meetings a day.' But I kept quiet, kept trying, and it essentially destroyed me. But, if I had it to do over again, I would be a lot more honest with *myself* than I was. I would be a lot more open about talking with my supervisors and co-workers. What happened to me was not their fault. They never had a chance to respond, because they didn't know."

— "A major aspect of communicating with employers is the individual's own attitude."

When one is aware of one's needs and has an attitude favoring collaborative communication with the employer, then it becomes important to be able to negotiate accommodations:

— "Our own attitudes are key."

— "It depends so much on the *way* you present something."

— "There is a relationship between my attitudes and my supervisor's attitude. I really do not know which comes first."

— "I would want, first of all, a supervisor who would talk with me and listen to me, and we would explore together what I would need for the job. To try and solve it together and come up with something that would help."

— "Such collaboration and negotiation often needs to be on-going. Not only do job duties change and new technologies become available, but supervisors and managers can change frequently. For example, I find where I work that there are always new bosses and managers and that in each new situation you are still Christopher Columbus. Sometimes I have to go back and start again, educating the new manager or new boss. It doesn't carry down through policy or experience because it might be the new person's first time working with a hard of hearing or deaf individual."

— "With the new boss or manager, I usually wait until I can get a handle on the person's management style. For example, this person may prefer small meetings whereas my previous manager had large meetings. Then I may say, 'Due to the fact that you're having these types of meetings, I need this, this, and this.' I have to do it on an as-needed basis."

In the above quotation, the person recommends watching and waiting, assessing the new manager's style, and then sitting down and negotiating what is needed: First, educating the employer, and then determining any new accommodations.

The individuals were then asked, "What about those who don't negotiate, but demand? Or, who may need a couple of things but ask for a dozen?" Here are some sample responses:

— "Those people hurt everybody."

— "I was that kind of employee. At one point, my hearing loss made me very, very angry. As a result of that anger, my demands were quite unreasonable. And, if the employer perceives the demands as unreasonable, I don't think they will, or should, respond completely. When I was very angry, I was asking for attention more than help in coping...and, in my anger, even if the assistive devices had been provided me, they would not have solved my communication problems. In this case, the real problem is lack of communication, plus the employee's misinterpretation of the term 'reasonable accommodation.' Now, I can understand that *negotiation for a reasonable solution* to the problem must precede 'reasonable accommodation.'"

— "You have to recognize that some people can never be satisfied. If you provide a reasonable accommodation, and if the person isn't satisfied, maybe that person can *never* be satisfied. Maybe there are other solutions, like job change."

One employer in the group concurred and offered the following perspective:

— "There are still employees who will not self-disclose. If they don't, the employer may unwittingly put them in unsafe situations. We are not always versed in picking up difficulties. People really need to self-disclose and self-advocate. Most people will compromise if they are aware.

On the other hand, if you have 10 people working for you and nine of them are satisfied, that's a miracle. Some people you can't make happy. I always have said, 'This is the job; this is what has to be done; what can I do to help you get it done?' They are there to do a job. If it doesn't work, the company needs to find someone who will get that job done. The current job just may not be their cup of tea and they may need to move on. If the employee likes the job, then that employee will negotiate on accommodations."

This raised the question of "reasonable accommodations" and its definition and determination. As one person asked:

— "I use an interpreter approximately 20 times a month. They are expensive. Another person I know with a similar job uses an interpreter about 20 hours a week! I'm not saying I wouldn't like that; my job would be a piece of cake if I had that. Who should define 'reasonable?' A company? An individual?"

In order to be "reasonable," some of the members assume the responsibility for trying new equipment before asking the company to purchase it for them. For some, this means trying it at their own expense:

— "I am perfectly willing to ask for things that I know will help me in my job and I can prove it. If I can't prove it, I don't want to ask for it. But there are things I'd like to try, I buy them myself."

— "I may find myself in a situation where I think something will help, and I don't know myself if it will help. I just have to try it and see how it works out. That's kind of tough because you're spending the company's dollars and they may or may not get a return. I don't just approach a new person right away and say, 'I'm hard of hearing and I need this, this, and this.' I continue to use the devices and services that I've been using."

"Reasonable accommodation" is a two-way street that requires knowledgeable employers. Here are some views regarding what is needed from management:

— "The attitude of supervisors is important, but they have to be made aware of technologies and other forms of assistance."

— "I hope that companies train new supervisors in accommodations. It would be horrible, given our present climate, to acquire a new boss who didn't know what to do with an employee with a hearing loss or with another disability. The company has a responsibility for training supervisors."

— "My supervisor is great in providing me with what I need in situations, but other people in the company really don't seem to be aware of the needs. There are instances where you are invited to meetings in other places and you go to the meeting and if you mention you are hard of hearing, they don't seem to know what to do for you. The whole organization really needs to be educated."

— "I would like to see resource centers for employers. So they would know what *reasonable* means. Also, a library or assistive devices demonstration center where people can go in and see what helps them. Employers need to be shown low-cost accommodations."

The employer in the group emphasized the need to focus on low-cost accommodations and for everyone to have an attitude of collaboration and understand "reasonable accommodation." For example:

— "In the 1950's, 'regimentation' reigned. In the 1960's and 1970's, employee satisfaction became paramount. Then in the 1980's, profit and quality was the goal. Now, in the 1990's, cost-cutting and productivity are the guiding considerations. Today, employers want three times what was done at the same pay. There is more stress. There is more competition and push as a result. Costs are up. To maintain the benefits package, you have to make money. To make money, you have to push your employees more. And one thing we have a lot more of right now is greed. Employer greed — and employee greed."

Employees' Responsibility

In summary, the individuals in this SHHH group have, for the most part, experienced employers who have positive attitudes and who will listen to the employee in making accommodations. While employers may not always know what to do, they seem to be open to employees' ideas. This puts responsibility on the employee for being aware of his needs, openly communicating those needs to the employer, having realistic and reasonable expectations, and for being educated about alternatives. Experiences prior to the ADA have shown that when that occurs, employers have been ready to listen and to try and assist the employee in getting what is needed for the employee to succeed on the job.

Recommendations

For Employers:

Employers traditionally are concerned about the cost of hiring people with disabilities. First and foremost, they need to access information on technology costs. They may also desire help in breaking down job responsibilities and tasks so that they can identify the actual needs to be addressed by technologies or job modifications. Finally, employers in a given geographic area need to interact with one another about various modifications to the work environment so they can share their knowledge of and experience with low-cost alternatives.

For Supervisors/Managers:

Supervisors and managers who do not perceive themselves as technically skilled may not only avoid learning about new technologies, but may downplay their usefulness and not present them as viable options. If managers have had unpleasant experiences in introduc-

ing new technologies into the workplace, or participated in too many overly technical workshops, they may have become soured on updating or broadening their technical skills.

Supervisors and managers need exposure to and training with new technologies. Most of them want to be helpful, but they need support and information on how to best assist their current and future employees. Places are needed where they can see assistive technologies in use, can try them themselves, and can receive knowledgeable answers to their questions.

For Employees:

Many employees have an aversion to and, hence, avoid technical "gadgets." Some equate devices with deviance; others are unwilling to request or to make accommodations. While many remain uninformed about the options available to them, others are not accustomed to being assertive and may hesitate to ask for the assistance to which they are entitled.

Some employees lack experience with cooperation and negotiation and don't want to be the ones to accommodate. They feel that the burden of any needed accommodation should fall on others. To overcome this negative attitude, employees need to be involved in the selection of appropriate technologies and to be able to exercise choice in the selection process. Often, they need preparation for and training in technology use (as do their supervisors and co-workers), they need help in initial use and applications, and they need help in achieving a sound and safe work setting that coordinates physical working conditions with the capabilities and requirements of the workers.

Matching Persons and Technologies

Assistive technologies are not used if other support services are not there. For example, a text telephone (TT) is not useful if those whom the employee wishes to talk with are not similarly supplied with TTs. It is not uncommon for persons with new hearing aids to abandon their use when they discover that "perfect hearing" is not restored and they have not received training in the limitations of hearing aids nor in communication management. No technology can be used optimally if the person is intimidated by technical gadgets. It is important to have the services and support necessary for the optimal use of assistive and other technologies.

"I should have said, 'I can't attend five large meetings a day.' But I kept quiet, kept trying, and it essentially destroyed me. But if I had to do it over again, I would be a lot more honest with myself. I would be a lot more open about talking with my supervisors and co-workers."

Ideally, the matching of person with technology is a collaborative process. For this to be successful, both employees and employers need guidance in making informed decisions about the use of assistive technologies. They must be provided with up-to-date and accurate information and have the ability to exercise choice. They need exposure to technologies and to have the opportunity to try them on a trial basis in realistic situations.

A Collaborative Model for Matching Persons with Technologies (MPT) has been developed to assist employees and employers in attempting to match a person with a technology. Copies of the model (which include the checklists) as well as more complete descriptions of their development are available from the authors. Contact Drs. Scherer and McKee at the National Technical Institute for the Deaf, Rochester Institute of Technology, P.O. Box 9887, Rochester, NY 14623-6500.

Conclusion

As the use of assistive technologies increases, there will be more concern directed to their quality, selection, and the ways they impact on an individual's overall quality of life. It is important to be knowledgeable about the many factors influencing an individual's technology use or non-use so that the most appropriate technologies can be provided and the most 'reasonable accommodations' for *that* particular person are the result.

This article was based, in part, on the following: Dr. Scherer's paper for the Seventh Annual Conference, "Technology and Persons with Disabilities," Los Angeles Airport Marriott Hotel, March 18-21, 1992, sponsored by the Office of Disabled Student Services, California State University, Northridge; and material in the forthcoming book, *Living in the State of Stuck* by M.J. Scherer, Ph.D. (Brookline Books, Cambridge, MA).

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Massachusetts Commission for the Deaf and Hard of Hearing

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How to Request a Sign Language Interpreter, Oral Interpreter or Computer-Aided Realtime Translation (CART) Reporter

Who should make an interpreter or CART reporter request?
Deaf, hard of hearing and hearing individuals and groups such as agencies, organizations, schools, employers, businesses are all consumers of interpreter or CART reporter services. The request for this service must come from the court, private doctor, individual, or agency responsible for paying the fee.

Where do I make the request?
Contact: Massachusetts Commission for the Deaf and Hard of Hearing
Interpreter/CART Referral Service
210 South Street, Fifth Floor
Boston, MA 02111
617-695-7500 Voice
617-695-7600 TTY
8:45 am - 5:00 pm, M-F

For medical, mental health and legal emergencies only:

800-249-9949 TTY/Voice

everyday, 24 hours a day

Ask for an Interpreter Referral Specialist and specify the city or town where the interpreter is needed or ask for the CART Referral Specialist.

What should I tell the Referral Specialist?
The following information is crucial to process the request:

1. your **name, telephone number** and **organization** (if applicable);
2. **date** and **time** that you will need an interpreter/CART reporter, and length of assignment;
3. **address** of the assignment including specifics: the name of the building, court or clinic, what floor, room number, etc.;
4. the **nature** and **format** of the meeting (i.e., medical appointment, platform lecture, staff meeting, civil or criminal court case, docket number, etc.);
5. **number of participants**, deaf, hard of hearing, late deafened and hearing;
6. **special equipment** to be used (i.e., microphones, overhead projectors, video, etc.); for CART requests specify if projection services will be required and what equipment, if any you will provide (i.e. monitor, overhead projector, LCD plate, projection screen, etc.);
7. **names of deaf participants and their preferred mode of communication** (i.e., American Sign Language, oral, Signed English, etc.), if known; and names of participants who will be using CART services;
8. **names of preferred interpreters/CART reporters.** Often deaf, hard of hearing, and late deafened people have a specific interpreter/CART reporter(s) they prefer. Requested interpreters/CART reporters will be contacted first in an attempt to honor these preferences. If there is an interpreter/CART reporter you would prefer *not* to work with, feel free to inform MCDHH;

9. **payment information:** the name, address, and telephone number of the person who will be paying for the interpreter;

10. name and telephone number of the **contact person** at the assignment.

Please call in your request as early as possible, because freelance interpreters/CART reporters often fill their schedules 2-3 weeks in advance. Every attempt will be made to fill your request; however, all requests are subject to the availability of interpreters/CART reporters. Priority will be given to those requests involving urgent mental health, medical and legal matters. Generally, MCDHH will notify you at least two days prior to the assignment to inform you if an interpreter/CART reporter has been scheduled. A one-week notification period will be used for requests for conferences, certain meetings, and other events in which rescheduling is difficult or impossible.

If it is an emergency request, what should I do?
The MCDHH After-Hours Emergency Interpreter Service provides on-call interpreters in designated regions throughout the state to respond to emergencies evenings after 5:00 pm, and on weekends and holidays. MCDHH depends on freelance interpreters' volunteering to staff this service, and therefore, cannot guarantee having on-call interpreters available in all regions at all times.

During regular daytime business hours, MCDHH is not able to provide on-call interpreters or CART reporters assigned only to emergency requests. However, during these regular hours, MCDHH coordinates emergency responses, when possible, through the freelance and MCDHH staff interpreter systems.

For all medical, mental health and legal emergency interpreter requests, day or night call:
800-249-9949 TTY/Voice. Evenings after 5:00 pm, weekends, and holidays, *you may also call* **800-760-1625 TTY and 617-556-5286 Voice.**

What if there is a cancellation or a change from the original request?
Please report any changes or cancellations as soon as possible. This is necessary regardless of whether you have received confirmation from MCDHH that an interpreter/CART reporter has been assigned. Since interpreters/CART reporters are in high demand, this information will assist in more efficient use of their services. If cancellations are not called in at least 48 business hours in advance of the assignment date, you may be billed in full for the interpreter's/CART reporter's time.

How much does it cost to hire an interpreter or CART reporter?
As do other professionals who contract their services, interpreters and CART reporters charge fees based on qualifications, experience, and type of job assignment. The fees quoted below are approximate ranges; fees are set by the individual interpreters and CART Reporters for jobs in the private sector.

Freelance interpreter for non-legal jobs:	a minimum fee ranging from $50 to $80 for the first two hours or any part thereof; $25 to $40 per hour
Freelance interpreter for legal jobs:	a minimum fee ranging from $70 to $90 for the first two hours or any part thereof; $35 to $45 per hour
Freelance CART Reporter:	a minimum fee ranging from $150 to $195 for the first two hours or any part thereof; $50 to $65 per hour; additional charges for provision of projection equipment and provision of ASCII file.

Exact fees per job, cancellation policy, travel, and mileage are negotiated by the paying consumer and the freelance interpreter or CART Reporter.

Can I give feedback about the interpreter or CART reporter?
Yes. You can share feedback, both compliments and complaints, with the Director of Interpreter Services at the Commission. This information will be shared but your name will not be used without your permission.

Massachusetts Commission for the Deaf and Hard of Hearing

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Computer Aided Realtime Translation Reporter Service (CART)

What is CART Reporter Service?
Computer Aided Realtime Translation (CART) Reporter services are provided by court reporters who have additional training and/or experience in realtime reporting. The reporter types into a stenographic machine which is connected to a computer. The computer translates the stenotype shorthand into English which is simultaneously displayed on a computer monitor or can be projected onto a large wall screen.

Who uses CART services?
CART service enables communication access for persons who are competent in English, both written and oral, and who either (a) are not able to use ASL interpreters, sign language transliterators and/or oral interpreters in general or (b) do not choose to do so in the particular situation. In general, persons who choose to use CART service are late deafened adults, oral deaf persons and some hard of hearing persons.

Is a CART Reporter a kind of "interpreter"?
An "interpreter" translates one language into another, like English into American Sign Language. CART Reporters convert *spoken* English into a *printed* English format. The CART Reporter does *not* "interpret" from one language to another, but is more similar to a Transliterator who changes spoken English communication into a visually enhanced English-based format or Signed English transliteration. CART Reporters, ASL Interpreters, Signed English Transliterators and Oral Transliterators all provide communication access services, each through its own mode, for particular deaf, hard of hearing and late deafened people.

When can I use a CART Reporter?
CART reporting service can be used in any situation where communication is needed. Most often, CART services are used in group meetings - legislative hearings, workshops, classroom settings, on-the-job training, advisory council or board meetings, court proceedings, and so on.

Who pays for CART services?
Several state and federal access laws require that communication be accessible to deaf and hard of hearing persons. The Americans with Disabilities Act (ADA) has provisions for communication access, including CART services. In addition, Section 504 of the Rehabilitation Act of 1973, as amended, states that public services from facilities which receive federal funding such as hospitals, police, fire, state colleges and universities, and state agencies are responsible for the costs of providing communication access.

Where do I request a CART Reporter or ask for more information?
The MCDHH Interpreter Service handles requests for CART reporters. When you call MCDHH, ask for the CART referral specialist in the Department of Interpreter Services.

updated 1.31.95

Why Use Assistive Listening Devices?

by Cynthia L. Compton

Assistive listening devices (ALDs) are designed to enhance speech understanding and the enjoyment of music in everyday situations. Some devices are helpful to those whose hearing loss is mild and who have not yet been fitted with a hearing aid; others go "beyond the hearing aid" to reinforce listening potential in a variety of ways. Here is a basic overview of systems to let you know what's available. With the enactment of the Americans with Disabilities Act, both newcomers to hearing loss and experienced ALD users will want to look for these systems in public facilities. Always ask for them, and if a facility has them, give the devices a try. If they don't, encourage management to install something that will help people with hearing loss to better enjoy the facility's services.

Hearing aids are invaluable to most people with hearing loss, but even the best hearing aids have performance limitations. Although many advances have been made in hearing aids, we are still a few years away from ones that can always distinguish between voices and background noise, eliminate echoes, or pick up speech clearly from a distance.

The problem is made even more severe by the fact that people with sensorineural hearing loss experience more difficulty sorting speech from noise, than do people with normal hearing, because of the built-in distortion that is inherent with hearing loss. Therefore, while hearing aids are useful in quiet situations involving one-to-one communication, they may not always solve the problems of listening in more difficult environments.

Assistive listening devices, often called "ALDs," increase the loudness of only specific sounds. In effect, they separate sounds the user wants to hear from sounds that are merely background noise. This makes it easier to hear and understand speech, even from a distance. Like "binoculars for the ears," ALDs extend the reach of the hearing aid.

Main Types of ALDs

ALDs are divided into two main types — hardwired and wireless — and can be used in large areas such as lecture and concert halls or in interpersonal situations, such as one-to-one or small group discussions, in restaurants, and television viewing.

Hardwired Assistive Listening Systems

Hardwired systems require a direct connection between the sound source and the listener. They require an actual wire or cord to transmit the sound, thereby tethering the listener to the sound source with freedom of movement determined by the length of the cord. The speaker talks directly into the microphone at a distance of a few inches so that speech is captured before it loses any energy.

The speech enters the microphone and is changed into an electrical signal that travels through the cord and terminates at an earphone, a hearing aid, a neckloop, or silhouette inductor. The person with a hearing loss receives the sound at a level significantly louder then the background noise.

Some hardwired systems are "hearing aid dependent," that is, they must be used with a personal hearing aid; whereas others — "stand alone systems" or "personal amplifiers" — can be used with either a hearing aid or earphones. Hardwired devices are relatively inexpensive, portable, and can be used in family gatherings, meetings, and with stereos, TVs, etc.

One example of a hardwired hearing aid dependent system is a directional microphone that picks up most strongly the sounds coming from the direction the microphone is pointed. The signal then travels through a cord that is plugged directly into the hearing aid. This is called a Direct Audio Input (DAI) connection. This microphone can be used in meetings or family gatherings where it is impossible or inconvenient to have each speaker talk directly into an ordinary microphone.

A variation of DAI is to connect the hearing aid to a cord that is plugged into the output jack on some type of audio device. Most modern stereo systems, TVs, tape players, and dictation machines have output jacks suitable for DAI to a properly equipped hearing aid.

The stand-alone or personal amplifier system consists of a battery-powered portable amplifier. This amplifier can be used with a microphone to pick up sound from a TV, radio, or a person's mouth. Or, it can be plugged directly into a TV or other audio device, including a modular telephone. Sound is then delivered to the listener via earphones or a hearing aid.

Some behind-the-ear and most in-the-ear custom canal hearing aids do not have a direct audio input connection and, therefore, cannot be connected directly to microphones or audio jacks. However, if the hearing aid has a telecoil, or T-switch, the hearing aid can be set to "T," and a neckloop or silhouette inductor can be plugged directly into the television or other sound source.

Wireless Assistive Listening Systems

Wireless assistive listening systems are divided into three primary types: **audio induction loop; infrared; and FM.** See the chart on page 16 for an overview and comparison of these systems.

Audio Induction Loop

The basic component of an audio loop system is a loop of wire encircling a room and connected to the output of an audio power amplifier. The signal fed into the amplifier can originate from a microphone, tape recorder, TV, or similar sound source. The loop of wire emits electromagnetic energy which is picked up by a telecoil receiver.

The receiver for this system is the telecoil in the user's hearing aid. The listener can sit anywhere inside or alongside the loop and hear the sound without the disturbing effects of background noise or echoes. When a listener does not have a hearing aid, or does not have a hearing aid equipped with a telecoil, reception from the loop is impossible unless the listener uses a special telecoil receiver. This is a compact unit with receiver and earphones.

Infrared

Infrared systems transmit sound in the form of harmless light waves that are invisible to the human eye.

Like "binoculars for the ears," assistive listening devices extend the reach of the hearing aid.

A special transmitter sends the desired signal on invisible light waves to individual wireless receivers worn by each listener. These receivers contain a photo detector diode or "eye" which picks up the infrared light and changes it into sound.

Listeners may use one of three basic methods to transmit the signal to their ears.

1. **Without a hearing aid:** the receiver is used with an earphone headset.

2. **With a hearing aid telecoil:** a silhouette inductor may be worn behind the ear, or a neckloop is worn around the neck — and either is plugged into the infrared receiver. The hearing aid must be set to "T" to pick up the signal.

3. **With a hearing aid equipped with direct audio input:** the listener's hearing aid is connected directly to the infrared receiver.

Large-area infrared systems are being installed in more and more theaters and concert halls across the country, making it easier for people with hearing loss to enjoy the arts.

Since light waves do not travel through solid surfaces, transmission is confined to the room containing the sound source. In addition, the path between transmitter and receiver must be unimpeded.

Small versions of infrared systems are also available for interpersonal use, such as with the TV, in meetings, in classrooms, courtrooms, and even with the telephone.

FM

FM (frequency modulation) systems transmit and receive sounds as radio waves within a specially FCC designated range.

As with induction loop and infrared systems, an FM system consists of a transmitter and receiver. The FM transmitter can be coupled directly to a sound source, or can pick up sound by means of a microphone. The speaker's voice is changed into an electrical signal and then into an FM radio wave which is broadcast through the air.

As with infrared, the sound can be picked up and transmitted to the ears in one of several ways. The receiver may be used with or without a hearing aid, with the hearing aid's telecoil, or with the hearing aid's Direct Audio Input connection.

An FM system can also be used as a completely portable personal listening system, making it a versatile listening option. For example, an FM system can be used for TV and stereo listening, as well as for one-to-one and small group conversations.

Using ALDs with Earphones Versus a Hearing Aid

Both hardwired and wireless listening devices can be used with earphones or with a hearing aid. Using ALDs with a hearing aid can be accomplished by using the hearing aid's telecoil circuit (and a neckloop or silhouette inductor), or by using the hearing aid's DAI circuit.

Which way is best? That depends on the person's hearing loss and hearing aid as well as other factors, such as convenience and cosmetic concerns. A decision on how to use an ALD needs to be made on a case-by-case basis in consultation with a hearing healthcare professional.

Explore Your Options

All of these assistive listening devices enhance listening and comprehension in everyday situations while reducing the negative effects of distance, background noise, and echoes. However, not all of these devices are suitable for everyone.

Choosing the right assistive listening device requires careful thought. Among the many factors to

Comparison of Large-Area Assistive Listening Systems

System	Advantages	Disadvantages	Typical Applications
INDUCTION LOOP **Transmitter:** Amplifier drives an induction loop (hook-up wire) which surrounds the listening area. **Receivers:** • personal hearing aid with T-coil • pocket-size induction receiver with earphone • self-contained wand	• Low maintenance • Simple to operate • Transmits directly to telecoil-equipped hearing aids • Requires little, or no administration of receivers (provided most people have telecoil-equipped hearing aids) • Induction receivers compatible with all loop systems • Unobtrusive with T-coil hearing aid • May be integrated with existing PA systems • Some available with level AGC to compensate for varying voice levels and/or distance to microphone.	• signal spill-over to adjacent rooms. • Susceptible to electrical interference. • Limited portability unless areas are pre-looped. • Requires installation of loop wire. Installation may be difficult in pre-existing buildings. Skilled installation essential in historical buildings (and, may not be permitted at all). • If user does not have telecoil-equipped hearing aid (cannot assume everyone does). then requires administration and maintenance of receivers.	Service counters (one-on-one) Ports of transportation Public transportation vehicles Tour buses Meeting rooms Conference rooms Auditoriums Classrooms Courtrooms Houses of worship Theaters Museums Theme parks Arenas Sport stadiums Retirement/nursing homes Hospitals
FM BROADCAST **Transmitter:** • belt-clip style with lavaliere microphone • base station for PA hook-up **Receiver:** Pocket-size with • earphone(s) or, • headset, or • induction neckloop or silhouette coil coupling to personal hearing aid equipped with T-coil, or • direct audio input (DAI) to personal hearing aid	• Highly portable when used with belt-clip style transmitter. • Multiple frequencies allow for use by different groups within the same area; e.g., multi-language translation. • Easy to install. • May be integrated with existing PA system.	• Receivers required for everyone. • Requires administration and maintenance of receivers. • May be less practical for short-term one-on-one conversations: e.g., if person has hearing aid with telecoil, then loop system is more practical for these situations. But, if a loop receiver must be used, then either system would require the same amount of "work" since both would involve wearable receivers. • Susceptible to electrical interference when used with induction neck-loop/silhouette. (DAI impractical for public applications.) • Breakability of receivers varies with quality.	Service counters Outdoor guided tours Tour buses Meeting rooms Conference rooms Auditoriums Classrooms Courtrooms Houses of worship Theaters Museums Theme parks Arenas Sport stadiums Retirement/nursing homes Hospitals
INFRARED LIGHT **Transmitter:** Amplifier drives emitter panel(s) covering listening area. **Receiver:** Under-chin or pendant-style receiver with • headset, or • earphone(s) or • induction neckloop or silhouette coil coupling to personal hearing aid equipped with T-coil, or • direct audio input (DAI) to personal hearing aid	• No spillover to adjacent rooms, etc. Ensures privacy or confidentially. (Unlike induction or FM transmission, infrared transmission does not travel through walls or other solid surfaces.) • May be integrated with existing PA systems. • Can be used for multi-language translation (must use special multi-frequency receivers). • Infrared receivers compatible with most infrared emitters.	• Line-of-sight required between emitter and receiver. • Receivers required for everyone. • Requires administration and maintenance of receivers. • Like FM, may be impractical for short-term one-on-one conversations (see #3 under FM disadvantages). • Susceptible to electrical interference when used with induction neck-loop/silhouette. (DAI) Impractical for public applications.) • Ineffective in sunlight. • Lifetime of emitters varies with company. • Large-area systems require installation.	Indoor service counters Meetings requiring confidentiality Meeting rooms Conference rooms Auditoriums Classrooms Courtrooms Houses of worship Theaters Museums Arenas (indoor only) Sport stadiums (indoor only) Retirement/nursing homes Hospitals

Reprinted with permission from Cynthia L. Compton, Gallaudet University Assistive Devices Center. Chart compiled by Cynthia L. Compton, Gallaudet University, Washington, D.C., and Peter Bengtsson, Centrum Sound, Cupertino, CA.

This couple uses a personal FM system to enhance communication.

consider are the severity and type of hearing loss, the individual's environment and lifestyle, versatility and durability of the device, how and where the device will be used, and cost. Remember that the best way to choose an appropriate assistive listening device is to consider your needs and discuss them with your hearing healthcare professional.

Is *There Anything* Else?

Yes. There is an entire range of technologies that fall in the category of "assistive devices" not detailed in this article that can help enhance communication and promote independence and safety. These include auditory and visual telephone devices, such as amplifiers and adapters, text telephones (TTs, also known as TDDs), telephone relay systems, fax machines, alphanumeric pagers (pocket faxes), etc.

There are visual displays of text for meetings, such as, computer-assisted notetaking and real-time captioning. There are also visual displays for television captioning.

In addition, helpful alerting devices are available to keep people in touch with their environment. Among them are: visual and tactile systems for the telephone ring, doorbell, and smoke alarm; paging systems; and that extraordinary, effective and affectionate "alerting system," the hearing dog.

Getting a hearing aid is only the beginning. There are a variety of technologies currently available (and more on the horizon) to help enhance your quality of life. □

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In 1991, she received the Special Friend for Hearing Impaired People Award from SHHH for her efforts in promoting the use of assistive technology. In 1992, she received the Joel Wernick Award from the Academy of Dispensing Audiologists for her distinguished contributions to the field of audiology through the promotion of assistive technology.

This article was excerpted from the book *Assistive Devices: Doorways to Independence* by Cynthia L. Compton. Copyright 1989 Assistive Devices Center, Department of Audiology and Speech-Language Pathology, School of Communication, Gallaudet University. The book can be purchased through SHHH Publications. Cost is $20 for SHHH members and $25 for non-members. (Add $3.50 for shipping.) Video available for $60 to SHHH members and $75 for non-members. (Add $5.50 shipping for video or both.)

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What is an American Sign Language (ASL) Interpreter?

Can anyone who signs be an interpreter?

The biggest misconception by the general public is that anyone who has taken classes in American Sign Language (ASL) or Signed English or knows the manual alphabet is qualified to be an interpreter. A signer is a person who may be able to communicate conversationally with deaf persons but may not necessarily possess the skills and expertise to accurately interpret or function as an interpreter. To become an interpreter, it is necessary not only to be bilingual and bicultural, but to have the ability to mediate meanings across languages and cultures, both simultaneously and consecutively. This takes years of practice and training. In Massachusetts, the Massachusetts Commission for the Deaf and Hard of Hearing (MCDHH) makes referals only to nationally certified or MCDHH approved interpreters in an effort to provide maximum quality interpreter services.

What is the difference between interpreting and transliterating?

Interpreting is the cultural and linguistic transmission of a message from ASL to spoken English, or vice versa. Transliterating is the transmission of a message from spoken English to a visual, manually coded version of English.

What is the role of an interpreter?

It is virtually impossible to be both an active participant and a neutral communication bridge between deaf and hearing persons. For this reason, it is not within the realm of the interpreter's role to advise, edit, advocate, teach, or participate while in the interpreting situation. The interpreter must faithfully transmit the spirit and content of the speakers. Deaf and hearing persons using interpreter services have the right to control the communication interaction and make their own decisions and mistakes.

Are there job opportunities for interpreters?

There are many job opportunities in Massachusetts for interpreters seeking free-lance work as well as full- and part-time employment. Free- lance interpreters are self-employed and contract their work through the Massachusetts Commission for the Deaf and Hard of Hearing Interpreter Service or directly with agencies or organizations. Interpreters also work as full- or part-time employees in such places as colleges, public schools, insurance companies, state agencies, mental health programs and computer companies.

Do interpreters specialize in certain areas?

Interpreters may have expertise and special training in some areas and not others. For example, some interpreters work primarily in medical settings, while others work mainly in court and legal settings. Familiarity with the subject and vocabulary is crucial for effective interpreting.

Can any interpreter work in courts or for police situations?

According to the Massachusetts General Laws, Chapter 221, section 92A, only interpreters deemed qualified and referred by MCDHH may interpret in court or police situations.

Can deaf people become interpreters?

Yes. The professional term is "relay" or "intermediary interpreter." The deaf interpreter works in conjunction with the hearing interpreter. There is a growing need for relay interpreters in critical situations such as court proceedings or psychiatric evaluations or situations where the deaf consumer relies on visual-gestural means to communicate.

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Cost Estimates for Selected Auxiliary Aids and Services

The cost estimates put forth here are averages or examples of possible cost or cost range. Actual cost, of course, varies per specific type or brand, whether an item or service is purchased under a state blanket contract; whether a service is provided for a short or long term, etc. Additional details related to costs may be available from MCDHH.

	Estimated or average cost	Specifics
State Agencies Rate		
Interpreters	•$20-35/hr.	Rate for state agencies/entities. Varies with level of credential. Two hour minimum, plus mileage.
MCDHH Rate		
CART Reporters	•$150 for a 2 hr. minimum plus $50 per additional hour.	MCDHH rate; additional charges for provision of projection equipment, ASCII file and mileage/parking.
Private Sector Rates		
Interpreters	•$25-40/hr.	Freelance rates for private sector jobs. Varies with level of credential. Two hour minimum, plus mileage.
CART Reporters	•$165-195 for a 2 hr. minimum plus $55-65 per additional hour.	Private sector rates; includes provision of basic translation equipment plus the CART Reporter; additional charges for provision of projection equipment, ASCII file and mileage/parking.
Captioning of Videos/Film	•$1000-2000.	Costs vary from vendor to vendor; also depends if closed or open captioning is used; can also purchase own captioning system which uses computer and appropriate software
Closed Caption Decoder Unit	•$100+	A unit which needs to be hooked up to a TV to decode captions on TV programs (if program is already encoded).
Closed Caption Decoder Chip	Included in cost of TV set	By law, all 13" or larger TVs manufactured for sale in the U.S. after July 1993 now have a decoder chip installed at no extra cost

Assistive Listening Devices

Type and brand of equipment, number of transmitters, receivers, microphones, number and types of listening attachments and miscellaneous accessories purchased influence costs.

FM System	•$1420-4000.	Cost depends on number of users anticipated for system; size of room; permanent or portable installation; stand-alone or use with existing Public Address mixer
Audio Induction Loop System	•$625-2000.	Can range from simple counter top system with minimal number of accessories to a compact system for small rooms to large area FM systems that can be either portable or permanently installed; number of receivers and listening attachments needed must also be factored in
Infrared System	•$700-2300.	Can range from a simple TV attachment to a conference room set up with appropriate accessories, including patch cords for cochlear implant users, to accommodate a 6000 square foot area
One-to-one Personal Amplification Devices	•$200.	Generally good for one to one conversations but can also be used for small group meetings, around a table or in a small office
Telephone Amplifiers	•$30-300.	Depends on type of telephone amplifier: hearing, speech, cellular or headset amplifier
TTY	•$200-1500.	Depends on features such as printer, ASCII capability, auto answer, direct connect, memory, and so forth. Payphone TTYs are also available but at upper range of estimated costs. Some TTY models (except payphone TTY) may be available under state contract.
TTY compatible modem	•$275-800.	For use with computers; appropriate software will be additional
Voice Carry Over (VCO) Telephone	•$180-240.	Excellent for deaf or hard of hearing people who wish to speak for themselves via the Massachusetts TTY/Telphone Relay Service; also has TTY capability but is not as efficient as a regular TTY
Signalers	•$15-500.	Some signalers are for individual devices, such as telephones and doorbells and use either visual (flashing lights), auditory (loud sound) or vibrating modes. Some devices are a "combo" meaning they will distinguish between several different sources such as telephone, doorbell, baby crying, alarm clock, smoke alarm, etc. Some also combine visual, vibratory and/or audio modes.
Visual Smoke/Fire Alarm	•$150-$230	Hardwired or battery-powered. Must have sufficient candela power to be effective.
Wake-up Alarms	•$30+	Size varies; alert methods range from flashing lights to vibratory to combo of light and vibratory or loud sound.